

09/546,962

T130

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions of claims in the application:

Listing of Claims:

1. (Currently amended) A system for scanning a target, comprising:
a light source providing a light beam;
a reflector having an arcuate reflective surface with a variable shape;
a shape controlling system for controlling said the shape of said the reflector, and
a beam expander with a generally cylindrical reflective outer surface; and
said the reflector reflecting a first portion of said the light beam from said the light source
onto said the beam expander, said the beam expander reflecting at least a second portion of said
the first portion of said the light beam onto said the target, and said the shape controlling system
selectively varying said the shape of said the reflector, whereby said the second portion scans
across at least a portion of said the target.

2. (Currently amended) The system of claim 1, further including a photo sensor, wherein
said the target reflects at least a portion of said the second portion of light onto said the photo
sensor and said the photo sensor generates an electrical signal representative of said the at least a
portion of said the second portion of light.

3. (Currently amended) The system of claim 1, wherein said the reflector includes a
piezoelectric material with an arcuate reflective surface.

4. (Currently amended) The system of claim 1, wherein said the shape of said the reflector is
generally radial.

5. (Currently amended) The system of claim 1, wherein said the shape controlling system
provides a voltage signal to said the piezoelectric material, and said the shape of said the reflector
is varied according to said the voltage signal.

09/546,962T130

6. (Currently amended) The system of claim 5, wherein said the shape of said the reflector is generally radial.

7. (Canceled)

8. (Currently amended) The system of claim 6, wherein said the beam expander has a generally spherical reflective outer surface.

9. (Currently amended) The system of claim 6, wherein said the beam expander includes a convex arcuate reflective surface.

10. (Currently amended) The system of claim 1, wherein said the beam expander includes a convex arcuate reflective surface.

11. (Currently amended) The system of claim 1, wherein said the beam expander has a generally cylindrical reflective outer surface.

12. (Currently amended) The system of claim 6, further including a photo sensor, wherein said the target reflects at least a portion of said the second portion of light onto said the photo sensor and said the photo sensor generates an electrical signal representative of said the at least a portion of said the second portion of light.

13. (Currently amended) The system of claim 12, further including a conversion and interface system receiving said the electrical signal from said the photo sensor and converting said the electrical signal to a digital code.

14. (Currently amended) The system of claim 2, further including a conversion and interface system receiving said the electrical signal from said the photo sensor and converting said the electrical signal to a digital code.

09/546,962T130

15. (Currently amended) A method of scanning a target, comprising the steps of:
providing a reflector having an arcuate reflective surface with a variable shape;
providing a beam expander with a generally cylindrical reflective outer surface;
providing a light beam from a light source to said the reflector;
reflecting a first portion of said the light beam off of said the reflector and onto said the beam expander;
reflecting a second portion of said the light beam off of said the beam expander and onto said the target; and
varying said the shape of said the reflector, reflector, thereby scanning at least a portion of said the target with said the second portion of said the light beam.

*B1
B2
C1*

16. (Currently amended) The method of claim 15, further including providing a control system with a control signal, wherein said the shape of said the reflector varies according to said the control signal.

17. (Currently amended) The method of claim 16, wherein said the reflector includes a piezoelectric material having at least two electrodes, and said shape varies according to the voltage across said electrodes.

18. (Currently amended) The method of claim 16, wherein said the beam expander includes a convex arcuate reflective surface.

19. (Canceled)

20. (Currently amended) The method of claim 15, wherein said the beam expander has a generally cylindrical reflective outer surface.

B'anc'da
09/546,962

T130

21. (Currently amended) A target scanning apparatus, comprising:
a housing having generally horizontal top and bottom sides, generally vertical left and right sides, said the sides extending longitudinally between generally vertical front and rear ends;
a scanning system mounted in said the housing and having a reflector with a variable shape arcuate convex reflective surface, a light source providing a light beam to said the reflector, and a control system adapted to control said the shape of said the reflector;
a mirror displaced from said the reflector in said the housing near one of said the front and rear ends; and
an aperture in one of said the sides near said the one of said the front and rear ends;
said the reflector reflecting a first portion of said the light beam onto said the mirror, and said the mirror being oriented so as to reflect a second portion of said the light beam from said the reflector through said the aperture and onto said the target, and said the control system varying the shape of said the reflector whereby said the second portion of said the light beam scans at least a portion of said the target, whereby said the light beam is expanded.

22. (Currently amended) The apparatus of claim 21, wherein said the mirror has a convex arcuate reflective surface.

23. (Currently amended) A system for scanning a target, comprising:
means for providing a light beam;
reflector means for reflecting a first portion of said the light beam;
expander means for reflecting a second portion of said the light beam from said the reflector means onto said the target, and
means for varying said the shape of said the reflector means, by which at least a portion of said the target is scanned with said the second portion of said the light beam.